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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/401,132      | 09/22/1999  | HUNG-JU LEE          | SAR-12598A          | 4242             |

28166 7590 01/16/2003

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EXAMINER

BUGG, GEORGE A

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2613

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |              |  |
|------------------------------|-----------------|--------------|--|
| <b>Office Action Summary</b> | Application No. | Applicant(s) |  |
|                              | 09/401,132      | LEE ET AL.   |  |
|                              | Examiner        | Art Unit     |  |
|                              | George A Bugg   | 2613         |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 10/31/02 have been fully considered but they are not persuasive. The Examiner maintains his rejection, pertaining to claim 22, and asserts that the Eleftheriadis reference, does in fact disclose the limitations of claim 22.
2. In Column 11, Lines 53-67, and Column 12, Lines 1-32, Eleftheriadis discloses objects associated with, or assigned a target object bit rate, based on a target frame bit rate. Specifically,  $R$  is the frame bit rate, or target frame bit rate,  $R_{sub\ i}$ , is a target average bit rate for each object, and  $a_{sub\ i}$ , is the amount of the total frame rate  $R$ , which is allocated to the object, while  $R_{sub\ n}$ , is the amount of the total frame rate  $R$ , which is allocated to the background. Furthermore, the allocation of the target frame bit rate in accordance to a target object bit rate, for at least one object, is also disclosed in Column 12, Equation 4. As can be seen, part of the target frame bit rate is allocated or distributed as target object bit rate, while the remainder is allocated or distributed as background target bit rate, the sum of the two being equal to  $R$  (target frame bit rate).
3. In light of the affidavit submitted by Applicant, the Sun reference does not qualify as prior art, and rejections based on the Sun reference have been removed. However, an Office Action, with suitable references, follows.

***Double Patenting***

4. Claims 22-24, 27-34, and 37-38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,023,296. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are broader in scope. Allowance of these claims would give Applicant an undue timewise extension of monopoly.

***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 22-38 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,055,330 to Eleftheriadis et al.

As for claims 22, 24, 29, 31, 32, and 34, Column 11, Lines 53-67, and Column 12, Lines 1-32, Eleftheriadis discloses objects associated with, assigned, or allocated a target object bit rate, based on a target frame bit rate. Specifically,  $R$  is the frame bit rate, or target frame bit rate,  $R_{sub\ i}$  is a target average bit rate for each object, and  $a_{sub\ i}$  is the amount of the total frame rate  $R$ , which is allocated to the object, while  $R_{sub\ n}$  is the amount of the total frame rate  $R$ , which is allocated to the background.

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Furthermore, the allocation of the target frame bit rate in accordance to a target object bit rate, for at least one object, is also disclosed in Column 12, Equation 4. As can be seen, part of the target frame bit rate is allocated or distributed as target object bit rate, while the remainder is allocated or distributed as background target bit rate, the sum of the two being equal to  $R$  (target frame bit rate). Column 15, lines 19-35 disclose multiple functions of Eleftheriadis' invention, being implemented through software and hardware, which is equivalent to instructions being stored on a computer readable medium, for carrying out the method of claim 22. In addition, this section also teaches that the target object bit rate is adjusted depending on buffer fullness.

Regarding claims 25 and 35, Column 3, Lines 26-30 discloses using shape information for both field or frame compression, as well as, object-based compression. Syntax information, motion information, and shape information are all inherent part of object-based compression.

As for claims 26 and 36, Column 19, Lines 23-35 discloses other rate control techniques which assigns different bit rates to objects based on shape or depth information.

As for claims 27 and 37, Column 10, Lines 34-45 shows quantization being dependent on a specific object and its attributes, i.e. bit rate.

With regard to claims 28 and 38, Column 15, Lines 19-35 shows quantization steps being selected by a rate controller, which is directly related to the quantization mode selected by the encoder, for encoding object information.

As for claims 23, 30, and 33, Eleftheriadis, teaches the use of the sum of the absolute differences, between two VOP to obtain shape information, and further control the rate at which object information is processed. The mean absolute difference is an inherent manipulation of data obtained through the summing of the absolute differences.

***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George A Bugg whose telephone number is (703) 305-2329. The examiner can normally be reached on Monday-Thursday from 7:30 to 6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S Kelley, can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-5359.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

George A Bugg  
Examiner  
Art Unit 2613

GAB

January 8, 2003

  
CHRIS KELLEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600